



REMARKS

In response to the Office Action mailed August 28, 2001, Applicants respectfully request reconsideration. To further the prosecution of this application, amendments have been made in the claims, and the claims as presented are believed to be in allowable condition.

I. Claim Objections

In ¶3 of the Office Action, claims 21 and 22 are objected to under 37 C.F.R. 1.75(c) as being in improper form because a multiple dependent claim must refer to a preceding claim. Claims 21 and 22 have been amended to depend only from claim 20. Accordingly, Applicants respectfully request that the objections to claims 21 and 22 be withdrawn.

In ¶4 of the Office Action, claim 19 is objected to as containing informal language. Claim 19 has been amended to delete the word “a” before the first instance of “primary storage elements.” Accordingly, Applicants respectfully request that the objection to claim 19 be withdrawn.

II. Rejection of Claims Under § 102(b)

In ¶6 of the Office Action, claims 1, 3, 4, 6-8, 10-12, 14, and 16-24 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,673,381 (Huai). Claim 1 has been amended to overcome the rejection under 35 U.S.C. § 102(b). Applicants respectfully traverse the rejection of claims 3, 4, 6-8, 10-12, 14, and 16-24.

Huai is directed to a system for backing up data stored on client computers of a network. According to the system, a server computer is coupled both to a number of client computers on the network and to a number of back-up storage devices by a bus. When a back-up job is processed, the server allocates buffer space for the back-up, and a client places a file in the buffer. When the complete file is received by the buffer, the server sends the file to one of the storage devices for storage therein. (Abstract; Col. 7, line 63 – Col. 8, line 12).

a. Claim 1

Claim 1, as amended, recites a computer system that includes a plurality of primary storage devices for a host domain, at least one of the primary storage devices to provide storage

for a host computer. The amendment is not believed to narrow the claim, but rather to make explicit what was already implicit. Huai does not disclose the recited computer system.

According to the Office Action, Huai discloses the recited "host computer" at lines 25-27 of column 1, and the recited "primary storage devices" at lines 25-27 (as above) and lines 27-32 of column 1, both of which are contained within the "Background of the Invention." It is unclear from the Office Action which aspects of the cited passages, which each recite "client computers" and "servers", are intended to disclose the "host computer" and "plurality of primary storage devices" of claim 1.

There are, however, only two possibilities – neither of which supports the present rejection.

If the rejection assumes that the "servers" in the cited passages correspond to the "host computer" of claim 1, and the "clients" in the cited passages correspond to the "primary storage devices" of claim 1, Applicants respectfully assert that none of the clients disclosed in Huai (either in the Background or the Detailed Description) provide storage for any of the disclosed servers. To the contrary, the server is for providing storage to the clients.

On the other hand, if the rejection presumes that the "servers" in the cited passages correspond to the "primary storage devices" of claim 1, and the "clients" in the cited passages correspond to the "host computer" of claim 1, the cited portion of Huai does not disclose a *plurality* of such servers as recited in claim 1 (i.e., a plurality of primary storage devices).

The Background section does refer to multiple clients and multiple servers in the prior art, but says nothing about how such systems are structured. The only system actually disclosed in Huai uses a *single* server with multiple buffers, to buffer files being sent to secondary storage. For example, in the summary of the invention section, the patent refers to multiple clients and file servers, but *all* of those devices pass data to back-up storage devices through a *single* server. (Col. 2 at ll. 38-41.) Thus, nothing in Huai discloses a plurality of primary storage devices that can access a particular secondary storage device, through a switched network or otherwise; accordingly, Huai cannot anticipate claim 1.

Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. §102(b) be withdrawn.

Claims 2-10 depend from claim 1, and are believed to be allowable for at least the same reasons.

b. Claim 11

Claim 11 recites a computer system including a heterogeneous plurality of host computers; a plurality of primary storage devices to receive and store data in the devices, each primary storage device being associated with at least one of the host computers; and a secondary storage device to receive and store data in the device, coupled to a plurality of the primary storage devices, the secondary storage device being configured to receive backup data from each of the host computers.

According to the Office Action, Huai discloses the recited computer system at lines 25-32 of column 1 (from the Background of the Invention) and lines 4-17 of the Abstract. The first passage discloses that conventional LANs typically comprise a number of client computers (e.g., personal computers or workstations) and servers, which may provide back-up services, coupled together in a network according to a client/server architecture. The second passage discloses that, according to the invention, a server computer is coupled both to a number of client computers on a network and to a number of back-up storage devices by a bus. The server computer receives files from the client computers and stores them to back-up storage devices.

Neither of the cited passages disclose “a heterogeneous plurality of host computers” or a “secondary storage device being configured to receive backup data from each of the host computers.” While the first passage suggests a plurality of “servers,” it does not disclose a secondary storage device being configured to receive backup data from each of the servers. Further, the passage provides no suggestion that such servers are heterogeneous. The second passage does not suggest a plurality of servers, but rather suggests a single server coupled to a plurality of clients.

Because Huai does not disclose “a heterogeneous plurality of host computers” or a “secondary storage device being configured to receive backup data from each of the host computers,” the cited reference cannot anticipate claim 11. Applicants respectfully request that the rejection of claim 11 under 35 U.S.C. §102(b) be withdrawn.

Claims 12-18 depend from claim 11, and are believed to be allowable for at least the same reasons.

c. Claim 19

Claim 19 recites a method of transferring data from at least one of a plurality of primary storage elements to a secondary storage element. The method includes a step of transferring a first logical object from the first one of the primary storage elements *directly* to the secondary storage element over a first connection. Huai does not disclose the recited method of transferring data.

According to the Office Action, Huai discloses the above-recited step at lines 1-12 of column 8. The cited passage teaches that to perform a back-up job, the server 12 allocates buffer space for the back-up, and the agent (e.g., a DOS agent, Win agent, or MAC agent) of a client pushes a file to the buffer space on a separate device. When the complete file is received by the buffering on the separate server, the server sends the file to a separate back-up storage device.

Thus, Huai teaches that a file is transferred from a client to a tape drive via a buffer associated with a server. Huai teaches away from *directly* transferring a logical object from a primary storage element to a secondary storage element.

Because Huai does not disclose a step of transferring a first logical object from a first one of primary storage elements directly to a secondary storage element over a first connection, the cited reference cannot anticipate claim 19. Applicants respectfully request that the rejection of claim 19 under 35 U.S.C. §102(b) be withdrawn.

Claims 20-25 depend from claim 19, and are believed to be allowable for at least the same reasons.

III. Rejection of Claim 2 Under § 103(a)

In ¶8 of the Office Action, claim 2 is rejected under 35 U.S.C. § 103(a) as being obvious over Huai in view of U.S. Patent No. 5,751,997 (Kullick).

According to the Office Action, Huai does not specifically teach a primary storage device coupled directly to a secondary storage device as recited in claim 2. Further, the Office Action asserts that this feature is taught by Kullick, and that it would have been obvious to modify Huai

to include this feature because it would have improved system performance by minimizing the time taken to perform an individual backup.

Applicants respectfully traverse any assertion that one would be motivated to modify Huai as described above. The features of Huai “enable multiple clients to be backed-up at the file level in parallel” (Col. 2, lines 61-63). A plurality of clients “each ‘push’ files in parallel to respective buffers at a server,” which are then written to back-up storage devices (Col. 2, lines 39-42). Thus, the server and buffer of Huai are integral to the intended function of the invention of “parallel streaming,” disclosed in Huai (Col. 2, lines 55-56). If one modified the system of Huai to meet this limitation, one would destroy the reasons behind why the Huai system was structured the way it was. The only conceivable motivation for doing so would be impermissible application of hindsight to construct the applicant’s claimed system.

In view of the foregoing, Applicants respectfully assert that there is no motivation to combine Huai and Kullick in the manner described in the Office Action to achieve the invention of claim 2.

Conclusion

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants’ attorney at the telephone number listed below.

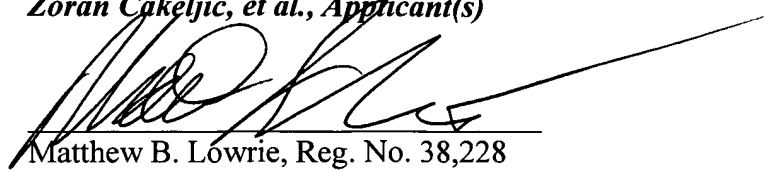
If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby requests any necessary extension of time. If there is a fee

occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

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MARKED UP CLAIMS

1. (Thrice Amended) A computer system comprising:
 - a host domain including a host computer;
 - a storage domain, coupled to the host domain, the storage domain comprising
 - a plurality of primary storage devices for the host domain, at least one of the primary storage devices to provide storage for the host computer;
 - a secondary storage device;
 - and a switched network coupled to the plurality of primary storage devices and to the secondary storage device to permit one of the primary storage devices to access the secondary storage device through the switched network.

19. (Twice Amended) A method of transferring data from at least one of a plurality of [a] primary storage elements to a secondary storage element, the method comprising steps of:
 - automatically establishing a first connection through a network from a first one of the primary storage elements to the secondary storage element to transfer a first logical object to the secondary storage element; and
 - transferring the first logical object from the first one of the primary storage elements directly to the secondary storage element over the first connection.

21. (Amended) The method of claim 20[, 24, 25], wherein the step of transferring the first logical object and the step of transferring the second logical object are performed in parallel.

22. (Amended) The method of claim 20[, 24, 25], wherein the first logical object and the second logical object were created by heterogeneous operating systems.